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Serial No. : 09/782,597
Filed : February 12, 2001
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Attorney's Docket No.: 07844-412001 / P376

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) A control method for typesetting a text line, comprising:
~~setting a coordination line for the text line to coordinate a plurality of characters for typesetting the text line; determining dimensions of each of the a plurality of characters to be typeset on the a text line;~~
~~determining an associating a distinct embox for with each of the plurality of characters, the vertical and horizontal size of each embox being said determined character dimensions;~~
associating a reference character with each of the plurality of characters, each associated reference character being one of one or more preselected reference characters, the one or more preselected reference characters all being characters from one font;
~~comparing the plurality of characters to be typeset on the text line with at least one preselected using the associated reference character belonging to the same font, and determining to determine a coordination point for each of the plurality of characters in their said respective distinct embox based on the result of the comparison and thereby determine a coordination point for each of the plurality of characters; and~~
coordinating-aligning each distinct embox with a coordination line using the determined said coordination point for each of the plurality of characters with said coordination line to typeset said the plurality of characters on the text line.
2. (Currently Amended) The method of claim 1, wherein ~~said dimensions are point dimensions and said at least one reference character has the same point dimension as each of the plurality of characters to undergo said coordination~~each of the plurality of characters has a point dimension and the one or more preselected reference characters include a reference character at each distinct point dimension found among the plurality of characters.

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3. (Currently Amended) The method of claim 2, wherein ~~said at least~~ the one or more preselected reference characters are each is a CJK font character.
4. (Currently Amended) The method of claim 1, wherein ~~said the one or more preselected reference characters are each~~ is a European-language en uppercase letter having a cap height.
5. (Currently Amended) The method of claim 4, wherein ~~said the one or more preselected reference characters are each~~ is an en H or an en X.
6. (Currently Amended) The method of claim 1, wherein ~~comparing~~ determining the coordination point for each of the plurality of characters comprises:
 - determining a glyph bounding box for ~~said the one or more preselected~~ reference characters;
 - centrally positioning ~~said the glyph~~ bounding box in ~~said each distinct~~ embox; and
 - determining a point on the glyph bounding box as the coordination point of said each distinct embox.
7. (Cancelled)
8. (Currently Amended) The method of claim 1, further comprising:
 - finding ~~the a~~ largest character having ~~the a~~ largest point dimension among said plurality of characters;
 - setting ~~the a~~ line height to be ~~the a~~ height of said largest character; and
 - ~~centrally positioning said plurality of characters that has been coordinated~~ aligning the plurality of characters with a coordination line within said line height for the largest character.

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9. (Currently Amended) The method of claim 1, wherein ~~comparing~~ determining the coordination point for each of the plurality of characters comprises:

determining the glyph bounding box for ~~said~~ the one or more preselected reference characters;

determining ~~the an~~ average value for ~~the~~ top, bottom, left, and right differences between said embox and said glyph bounding box;

determining an ideographic character face box located inside and separated from said embox edges by exactly the said-average value; and

determining a point on the said-coordination-point based on said ideographic character face box as the coordination point.

10. (Original) The method of claim 9, wherein N ($N \geq 2$) reference characters are present, and determining the average value comprises dividing the sum of the top, bottom, left, and right differences obtained for the N reference characters by 4N to determine said average value.

11. (Currently Amended) The method of claim 1, wherein ~~comparing~~ determining the coordination point for each of the plurality of characters comprises:

determining a glyph bounding box for ~~said~~ the one or more preselected reference characters;

determining a first average value for ~~the a~~ top and bottom difference between said the embox and ~~said the~~ glyph bounding box;

determining a second average value for ~~the a~~ left and right difference;

determining an ideographic character face box located inside and separated from said embox top and bottom edges by ~~exactly said the first~~ the first average value and the embox left and right edges by the second average value; and

determining a point on the said-coordination-point based on said ideographic character face box as the coordination point.

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12. (Currently Amended) The method of claim 9, wherein the said at least one or more preselected reference characters ~~has include~~ a glyph whose shape is substantially a close to square.

13. (Currently Amended) The method of claim 12, wherein ~~said~~ the at least one or more preselected reference characters include the Japanese ideographs "utsu" and "naga."

14. (Currently Amended) A computer program product, stored on a machine-readable medium, comprising instructions operable to cause a programmable processor to:

set select a coordination line for the text line to coordinate a plurality of characters for typesetting the text line,

determine the dimensions of each of the plurality of characters to be typeset on the text line,

~~determine associate an a distinct embox for with each of the plurality of characters, the vertical and horizontal size of each embox being said determined character dimensions;~~

associate a reference character with each of the plurality of characters, each associated reference character being one of one or more preselected reference characters, the one or more preselected reference characters all being characters from one font;

~~compare each of the plurality of characters to be typeset on the text line with at least one preselected use the associated reference character belonging to the same font, and determine to determine a coordination point for each of the plurality of characters in their said respective distinct embox based on the result of the comparison, and thereby determine a coordination point for each of the plurality of characters; and~~

coordinate-align each distinct embox with the coordination line using the determined said coordination point for each of the plurality of characters with said coordination line to typeset said the plurality of characters on the text line.

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15. (Currently Amended) The product of claim 14, wherein ~~said dimensions are point dimensions and said at least one reference character has the same point dimension as each of the plurality of characters to undergo said coordination~~each of the plurality of characters has a point dimension and the one or more preselected reference characters include a reference character at each distinct point dimension found among the plurality of characters.

16. (Currently Amended) The product of claim 15, wherein ~~said~~ the at least one or more preselected reference characters are each is a CJK font character.

17. (Currently Amended) The product of claim 14, wherein ~~said~~ the one or more preselected reference characters are each is a European-language en uppercase letter having a cap height.

18. (Currently Amended) The product of claim 17, wherein ~~said~~ the one or more preselected reference characters are each is an en H or an en X.

19. (Currently Amended) The product of claim 14, wherein the instructions to ~~compare~~ determine the coordination point for each of the plurality of characters comprise instructions to:

determine a glyph bounding box for ~~said~~ the one or more preselected reference characters;

centrally position ~~said~~ the glyph bounding box in ~~said~~ each distinct embox; and

determine a point on the glyph bounding box as the coordination point of said each distinct embox.

20. (Cancelled)

21. (Currently Amended) The product of claim 14, further comprising instructions to:

find ~~the~~ a largest character having ~~the~~ a largest point dimension among said plurality of characters;

set ~~the~~ a line height to be ~~the~~ a height of said largest character; and

~~centrally position said plurality of characters that has been coordinated~~ align the plurality of characters with a coordination line for the largest character. within said line height.

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22. (Currently Amended) The product of claim 14, wherein the instructions to ~~compare~~
determine the coordination point for each of the plurality of characters comprise instructions to:

determine the glyph bounding box for ~~said~~ the one or more preselected reference
characters;

determine ~~the an~~ average value for the top, bottom, left, and right differences between
said embox and said glyph bounding box;

determine an ideographic character face box located inside and separated from said
embox edges by exactly ~~said~~ the average value; and

determine a point on the ~~said coordination point based on said~~ ideographic character face
box as the coordination point.

23. (Original) The product of claim 22, wherein N ($N \geq 2$) reference characters are present,
and the instructions to determine the average value comprise dividing the sum of the top, bottom,
left, and right differences obtained for the N reference characters by 4N to determine said
average value.

24. (Currently Amended) The product of claim 14, wherein the instructions to ~~compare~~
determine the coordination point for each of the plurality of characters comprise instructions to:

determine a glyph bounding box for ~~said~~ the one or more preselected reference
characters;

determine a first average value for ~~the a~~ top and bottom difference between said embox
and said glyph bounding box;

determine a second average value for ~~the a~~ left and right difference;

determine an ideographic character face box located inside and separated from said
embox top and bottom edges by exactly ~~said~~ the first average value and the embox left and right
edges by the second average value; and

determine a point on the ~~said coordination point based on said~~ ideographic character face
box as the coordination point.

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25. (Currently Amended) The product of claim 22, wherein the ~~said at least one or more~~
preselected reference characters ~~has include~~ a glyph whose shape is ~~close to~~ substantially a
square.

26. (Currently Amended) The product of claim 25, wherein ~~said at least the one or more~~
preselected reference characters include the Japanese ideographs "utsu" and "naga."

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27. (Currently Amended) A desktop publishing system for controlling typesetting of a text line, comprising:

a desktop publishing processing control device provided with a font file and with typesetting control means, the font file containing character font information for performing typesetting;

a display device for displaying data that is being typeset; and
input means for receiving user input;

said typesetting control means having a text line typesetting control means adapted to arranging a plurality of characters to be coordinated with a coordination line of a text line by determining dimensions of each of the plurality of characters to be typeset on the text line,

~~determining associating an a distinct embox for with~~ each of the plurality of characters, each embox having a vertical and horizontal size corresponding to the dimensions of its associated character,

associating with each of the plurality of characters a reference character, each associated reference character being one of one of more preselected reference characters, the one or more preselected reference characters all being characters from one font,

using the associated reference character to determining-determine a coordination point for each distinct embox and thereby determine a coordination point for each of the plurality of characters~~by comparing each of the plurality of said characters with at least one preselected reference character belonging to the same font, and~~

performing line typesetting processing by coordinating-aligning each distinct embox with the coordination line using the determined coordination point for each of the plurality of characters~~with said coordination line.~~